

# CS-308-2014 Project Readme



**Cyborg TU-7**

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## **Project Description**

AgroBot is employed for an automated watering of plants in green houses, small and terrace farms, which need minimal surveillance. AgroBot also helps farmers to timely and accurately water farms and also monitor moisture hold of soil to better manage and schedule irrigation in farms.

The project can be divided into broadly 3 parts -

- **Sensing and tweeting status of the water content in troughs -**

- ★ Need to sense water level in troughs and tweet this to the server periodically, thereby monitoring the water content of plants in greenhouse remotely.
- ★ Need to design as many water level sensors as troughs and a communication protocol in place to deliver messages.

- **Transfer of instructions from server to AgroBot -**

- ★ Sending information from the central server about the trough that need water and its level of water.
- ★ Reach the trough using line follower mechanism and water it according to the current water level

- **Autonomous watering of plant -**

- ★ Water the trough based on the water level it already has, using a water pump, running time of which is to be controlled by AgroBot, thereby controlling the total flow of water.

## **Prerequisites to install**

- Keil 4
  - **Download** - <https://www.dropbox.com/sh/x0hbotcoj0nm324/63FWwft3wr/MDK410.exe>
  - Software to run the uvision project and build them
  - Required for coding the FireBird V
  - Required to run the Trough Side Code and Watering Bot Code
- X-CTU
  - **Download** - <http://www.digi.com/support/productdetail?pid=3352&osvid=57&type=utilities>
  - GUI interface to test and configure the XBee modules
- Netbeans
  - **Download** - <https://netbeans.org/downloads/>
  - **Installation** - <https://netbeans.org/community/releases/71/install.html>
  - Required for coding in JAVA.
  - Required to run the Central Server
- RXTXComm.jar and rxtxSerial.dll
  - These files are required for running the central server code.
  - Add these files to the PATH in netbeans as mentioned in Code Readme
- jdk 1.7.0 and jre7 or higher
  - **Download** - <http://www.oracle.com/technetwork/java/javase/downloads/index.html?ssSourceSiteId=otnjp>
  - **Installation** - <http://docs.oracle.com/javase/7/docs/webnotes/install/>
  - Required to compile java programs

### **Video Link**

<https://www.youtube.com/watch?v=xMNxg5yhX6k>